Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of Modernizing the E-rate Program for Schools and Libraries	WC Docket No. 13-184

REPLY COMMENTS OF QUALCOMM INCORPORATED

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SUMMARY

Scores of commenting parties including Qualcomm strongly believe that the FCC's E-rate program needs to allow schools to use E-rate funds for mobile learning devices and mobile connectivity off school grounds to ensure that underprivileged students will have the same access to Internet-based tools that their peers are using on a 24/7 basis. Indeed, no less than fifty-five commenters — from school teachers and administrators to educational content providers, technology developers, and service providers to prominent professors of education technology at America's leading universities — are urging the Commission to change the E-rate program to enable schools to use these funds for anywhere/anytime wireless connectivity so all American students can continue their learning outside of school, after hours and on weekends, no matter their income level.

As these scores of commenting parties explain, today's successful students use mobile broadband tools outside of school hours, at home, on the school bus, and elsewhere, to collaborate with classmates and teachers, perform research, watch instructional videos, and complete assignments. Low-income students, who are the focus of the E-rate program, cannot afford anywhere/anytime broadband access and thus are at a severe disadvantage. The E-rate program should be used to support off-campus mobile broadband connectivity and devices so that the existing mobile educational divide does not widen.

Schools all over the country are moving quickly to support learning on mobile devices, including tablets, e-readers, and smartphones. As the record before the FCC makes clear, schools desperately want to use E-rate funds to provide a mobile broadband education toolkit that includes mobile devices and mobile broadband connectivity. They recognize that wide scale deployment of 3G and 4G mobile broadband networks, and cost reductions in mobile broadband-

enabled smartphones, tablets, laptops, and e-readers are allowing digital textbooks to improve and thus substantially replace paper textbooks. Thus, any approach to E-rate that does not support mobile devices and 24/7 connectivity would be obsolete before enactment.

The Commission's record now leaves no doubt that this change to the E-rate program would dramatically improve educational outcomes. We know this because the final reports from the FCC Learning-On-the-Go ("LOGO") pilot program, which provided students and community members in 19 school districts and one library with off-campus mobile broadband connectivity, demonstrate that it was a resounding success. Participating schools reported improved test results, enhanced student engagement, and highly useful interactions among students and teachers. Perhaps most importantly, participating schools noted that mobile technology improved students' views of the importance of success in school to their own future success.

LOGO participants used mobile technology to provide personalized learning opportunities and allowed students to create content using their mobile devices and demonstrate proficiency in meaningful ways. It thus is no surprise that schools using the technology reported improved student attendance. Onslow County Schools in Jacksonville, North Carolina, explained that the "availability of a mobile device in the hand of every student … enabled and empowered the teachers and the students to think innovatively about instruction and classroom practice, and to provide a dramatically differentiated learning environment for every student." The FCC should build on these successes by funding via the E-rate program off-campus mobile broadband use and mobile devices.

In addition, many commenters agree that the FCC should move beyond the current priority one / priority two classification system and place all eligible items on a consolidated menu so schools can pick those items that best suit their local needs. The FCC also should not

favor a particular deployment scenario, that is, fiber optic cable deployments, to service schools and libraries. The Commission should allow schools and libraries to take advantage of today's rapidly advancing 3G/4G networks to support mobile tools via the E-rate program by implementing a technology neutral approach that allows E-rate recipients to use the broadband delivery service that best meets their needs. Schools and libraries should be given the flexibility to purchase the lowest cost broadband solution, and wireless broadband networks often offer the most economically-viable solution, especially where it is used to serve students and teachers on and off of school grounds.

We know that the FCC cares deeply about improving education for low income students through the E-rate program. That is the whole purpose of the program and, indeed, of this proceeding. The Commission's own record now removes any doubt about how to do so. The reports on file with the FCC prove that subsidizing mobile learning devices and mobile broadband connectivity off school grounds will achieve the very purpose of the E-rate program that is so dear to the Commission. If allowing schools to use E-rate funds in this manner requires additional funding for the program, that would be but a small price to pay to produce the tremendous improvement in learning that the FCC's record now proves will result from providing mobile learning devices and mobile broadband connectivity for low income students.

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REPLY COMMENTS OF QUALCOMM INCORPORATED

Qualcomm Incorporated ("Qualcomm") hereby submits these reply comments in response to the Federal Communications Commission's Notice of Proposed Rulemaking to modernize the E-rate Program.[1] No less than fifty-five parties are encouraging the FCC to provide E-rate funding for off-campus mobile broadband connectivity in line with the Commission's proposals in the 2010 E-rate NPRM and the National Broadband Plan.[2] The FCC should provide E-rate funding for 3G and 4G mobile broadband connectivity and also provide funding for mobile devices that are integrated with mobile broadband connectivity so that underprivileged students can keep pace with their classmates who use these mobile broadband-enabled learning tools after school and on weekends to complete assignments, access libraries of information, and collaborate with classmates while working at home in the evenings and on the long bus ride to and from school.

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1 *See Modernizing the E-rate Program for Schools and Libraries*, WC Docket No. 13-184, Notice of Proposed Rulemaking, FCC 13-100, 28 FCC Rcd 11304 (2013) (hereinafter "NPRM"); *see also* n.10, *infra*.

2 *See Schools and Libraries Universal Service Support Mechanism*, CC Docket No. 02-6, and *A National Broadband Plan For Our Future*, GN Docket No. 09-51, Notice of Proposed Rulemaking, FCC 10-83, 25 FCC Rcd 6872 (2010) (hereinafter "2010 E-rate NPRM"); FCC *Connecting America: The National Broadband Plan* (rel. Mar. 16, 2010) at 239, Recommendation 11.23.

INTRODUCTION

In 2010, the FCC established the Learning On-The-Go ("LOGO") wireless pilot program to study the merits of enabling innovation in learning outside the boundaries of school buildings and the traditional school day.[3] Nearly one hundred entities applied for LOGO funds, and the Commission chose 20 pilot programs to fund. Last month, the FCC released the final reports from the LOGO pilot program participants, and the results provide solid confirmation that the off-campus use of mobile broadband connectivity enormously improves educational outcomes for students.[4] Participating schools reported improved test scores, enhanced student engagement, improved attendance, and deeper connections among students and between students and teachers. LOGO participants were particularly pleased that mobile technology improved students' views of the importance of school to their future success.

The San Diego Unified School District ("SDUSD"), experienced particularly remarkable results, including improved test results, increased student engagement, increased parent involvement, and improved teacher satisfaction. SDUSD carefully planned the rollout of its pilot program and conducted workshops for teachers and administrators on to best incorporate mobile learning tools into their curricula as well as training for parents on how to oversee student usage at home.[5]

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[3] *See E-rate Deployed Ubiquitously 2011 Pilot Program*, Order, WC Docket No. 10-222, DA 11-1181 (July 11, 2011).

[4] *See, e.g.*, Katy Independent School District LOGO Final Report; City School District of New Rochelle, NY, EDU2011 Final Report; Onslow County Schools LOGO Final Report; San Diego Unified School District LOGO Final Report; in WC Docket No. 10-222 (posted Oct. 22, 2013).

[5] *See* San Diego Unified School District LOGO Final Report; in WC Docket No. 10-222 (posted Oct. 22, 2013).

Because the FCC's pilot program ensured that all students had Internet access at home, LOGO teachers in the San Diego USD were able to successfully "flip" their classroom instruction. In a flipped classroom, teachers create short instructional videos that students watch at home where they have the ability to rewind and re-watch at their own pace. The next day in class, students take a quick online assessment and are placed into differentiated groups, allowing the teacher to provide a personalized learning environment with one-on-one attention and small group instruction. One of the LOGO teachers who began flipping her classroom this year declared: "I feel like I really know my students now because I can tell you after a 50 minute period I've probably talked to every single student at least three or four times and that kind of personal attention for students you don't necessarily get with direct instruction."[6]

Prior to the LOGO Program, this innovative teaching method was not being utilized because teachers could not rely on all students having access to the Internet away from school. "Flipping" and other forward-thinking teaching strategies can only occur if every student has broadband access to the rich digital instructional materials outside of school hours. As the Director of Technology at the City School District of New Rochelle, NY, reports:

> The one challenge we had is <u>not being able to offer this pilot program to more students in our District who do not have devices or Internet access at home</u>. Without the eRate funding, we would not have been able to do this pilot program at all.
>
> Everyone – parents, administrators, teachers, staff, and students are asking me what happens in 2013-14. Without the eRate funding for wireless off-premise, <u>we will be taking a major step backward and opening up our District divide again</u>.
>
> <u>This is our biggest challenge as we have a 2% school tax cap in New York State</u>.[7]

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6 *See id.* at 6.

7 City School District of New Rochelle, NY, EDU2011 Final Report at 25, in WC Docket No. 10-222 (posted Oct. 22, 2013) (emphasis in original).

Unlike most districts, it is true that there were some LOGO schools that did not have 100 percent positive results. The reason for this was that these schools, operating on their own in implementing new pilot projects, experienced issues managing certain aspects of their wireless programs. Having access to the details and lessons learned from the more successful LOGO programs will allow all schools to benefit and to avoid these issues in the future.[8] These implementation issues in no way detract from the clear educational gains that the students in most districts achieved, and that all students can achieve with full E-rate funding of mobile connectivity. Indeed, "many districts around the country are rolling out tablets without a hitch," as the Wall Street Journal recently reported.[9]

Providing such mobile broadband connectivity and portable learning tools such as tablets and e-readers via the E-rate program will help disadvantaged students overcome the lack of technology resources and support at home, which leads to their falling behind in core school subjects. Qualcomm and its mobile communications industry partners are at the forefront of helping educators improve their teaching and students their learning via robust mobile broadband connectivity, devices, and educational software applications. Consistent with the recommendations of the National Broadband Plan, the proposals in the 2010 E-rate NPRM and the instant NPRM, and the successes demonstrated by the LOGO wireless pilot programs, the

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[8] *See, e.g.*, Katy Independent School District LOGO Final Report, at 14-17 - Section 4. Lessons Learned, in WC Docket No. 10-222 (posted Oct. 22, 2013) (providing lengthy feedback on how best to deploy a mobile technology educational platform); San Diego Unified School District LOGO Final Report, at 21-22 - Lessons Learned, in WC Docket No. 10-222 (posted Oct. 22, 2013).

[9] Stephanie Banchero and Erica E. Phillips, "Schools Learn Tablets' Limits, Districts Grapple With Glitches as Some Say Devices Can Supplement Lessons," WALL STREET JOURNAL (Oct. 14, 2013) ("'A tablet is a tool that can enhance a lesson and engage kids,'… . 'But you really have to know your content and understand how to teach for it to be effective in helping children learn.'").

FCC should promptly authorize use of E-rate fund to enable schools and libraries to take advantage of the expanding options offered by ubiquitous mobile broadband connectivity.

DISCUSSION

I. Scores Of Commenting Parties Agree That The FCC Needs To Fully Fund Mobile Broadband Connectivity For Students Outside Of Schools And After School Hours

At least 57 parties filed comments in this proceeding urging the Commission to authorize E-rate funding to provide students with anytime/anywhere access to mobile broadband connectivity.[10] They understand that 21st century education programs require students to have

[10] *See* Comments of Software & Information Industry Association at 8; Comments of Digital Learning Institute (Beverly Eaves Perdue) at 2, 6-7; Comments of eBackpack, Inc. at 3; Comments of Xirrus, Inc. at 3; Comments of VectorUSA at 5; Comments of Telecommunications Industry Association at 4; Comments of State Educational Technology Directors Association at 19, 23; Comments of Sprint Corp. at 10, 12-14, 20, 22; Comments of SmartEdgeNet, LLC; Comments of Qualcomm Incorporated at 2, 3, 7, 10-13, 17-18; Comments of Project Tomorrow at 5-7; Comments of University of Michigan (Prof. Soloway) and University of North Texas (Prof. Norris) at 1; Comments of New_Classrooms.org at 1-2; Comments of National Hispanic Media Coalition at 2-4; Comments of NACEPF, the "North American Catholic Educational Programming Foundation, Inc." at 5, 6, 8, 9, 13; Comments of Education-Information Technology (Joshua Lewis, Director) at 1; Comments of Jeffrey Jennings at 2; Comments of Iowa Department of Education at 6, 7, 16; Comments of Hispanic Information and Telecommunications Network, Inc. at 3-5; Comments of Dallas Independent School District (Gary Shuman) at 1; Comments of Frank Barnes; Comments of Elliot Soloway; Comments of Education Coalition at 6, 11, 26-29; Comments of Connected Nation at iii, 6-7, 13-15; Comments of Competitive Carriers Association at 7-11; Comments of Colorado Association of Leaders in Educational Technology at 3; Comments of CollaborationSource; Comments of CTIA-The Wireless Association; Comments of Kentucky Department for Libraries and Archives at 7; Comments of Stanford University Graduate School of Education; Comments of Rethink Education; Comments of Poway Unified School District; Comments of Dean Ryan and Prof. Dede - Harvard Graduate School of Education; Comments of BrightBytes; Comments of Kajeet, Inc.; Comments of Carnegie Library of Pittsburgh at 5-6; Comments of AdTec, Inc. at 3; Comments of ACT Inc. (Thomas A. Lindsley) at 2-3; Comments of Talladega County Schools; Comments of San Diego County Office of Education; Comments of Dothan City Schools (Mark Williams); Comments of Los Angeles Unified School District at 9-10; Comments of Heartland Educational Consortium; Comments of School Boark of Polk County, FL (Hazel Sellers, Board Chair); Comments of John S. and James L. Knight Foundation (Eric Newton); Comments of Pullman Public School; Comments of Nancy Tom, Harlandale ISD; Comments of Visions In Education, K-12 Charter School ("Tom Tafoya"); Comments of Scranton Public Library at 2; Comments of Katy Independent School District (Fran McTigrit); Comments of The School

broadband Internet access outside of the classroom. Indeed, today's successful learner has in the palm of her hand at all times a mobile learning device that allows her to pull up information on homework and other longer term assignments, communicate with classmates and with teachers, complete projects, learn more about subjects of interest, and work on additional homework problems as needed to fully understand a new subject.

As LEAD Commission Co-Chairs Margaret Spellings and James Steyer explained during the Commission's Open Meeting when the instant NPRM was adopted: "We need an E-Rate program that supports learning that can happen anytime, anywhere, at any pace."[11] Mobile broadband enabled devices — tablets, e-readers and smartphones — are the tools best suited to "help students access customized interactive instruction anytime, anywhere, at any pace — and can level the playing field for students regardless of geographic location or socioeconomic status."[12] Now is the time to make that happen. As the LEAD Commission Co-Chairs exhorted: "We can't afford to wait. Five years from now, it will be too late."

Full funding of off-campus 3G and 4G mobile broadband connectivity is needed to equip all American students with "the digital skills required to participate in our 21st century economy

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District of Osceola County, Florida, Professional and Technical High School (K M Pruitt); Comments of Fairfield Public Schools (Dr. David G. Title); Comments of Appalachia Intermediate Unit 8 at 2; Comments of Fairfax County Public Schools at 2-3. *See also* Reply Comments of Alliance for Excellent Education; Reply Comments of Education Coalition; Joint Center for Political and Economic Studies Ex Parte Letter (Aug. 1, 2013).

[11] *See* Margaret Spellings and James Steyer, "Paving a Path Forward for Digital Learning in the United States," presentation before the FCC Open Commission Meeting at 5 (July 19, 2013). *See also* LEAD Commission Report, *Paving A Path Forward For Digital Learning In The United States* at 12 (Sept. 2013).

[12] *See* Supportive Statement of LEAD Commission Co-Chair, Former U.S. Department of Education Secretary Margaret Spellings, Supportive Statements On The FCC's Proposals To Modernize E-Rate (July 19, 2013) *available at* http://www.fcc.gov/document/supportive-statements-fccs-proposals-modernize-e-rate.

and society."[13] Indeed, the technology that is transforming every business and market today should be used to "transform[] the way our children learn and achieve."[14]

Today, millions of students use mobile technology to continue their learning outside of school. Anywhere/anytime mobile broadband connectivity funded through the E-rate program would help students to overcome falling behind in core subjects like English, Math, Science, and Social Studies due to a lack of technology resources and parental support at home.[15] Such connectivity also would allow students who are absent from school due to illness or other complicating factors to remain active participants in school and communicate in real-time with their teachers and classmates. It also would enable students to continue their learning on the bus to and from school, which is especially important for students in rural areas who travel many miles to school.[16] By providing E-rate funding for anywhere/anytime mobile connectivity,

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13 Prepared Remarks of Acting FCC Chairwoman Mignon Clyburn, New America Foundation Communications Safety Net: How Lifeline Connects Families and Communities (Sept. 12, 2013) at 5.

14 *See* Spellings and Steyer, n.11 *supra*. The Sesame Workshop recently reported that almost half of their audience are engaging with Elmo and Big Bird using smartphones and tablets, which represents "one of the most drastic changes we've seen in 44 years" of the Sesame Workshop's existence. *See* Janko Roettgers, "Elmo loves iPads: Close to half of Sesame Workshops's audience now uses mobile devices," Gigaom (Oct. 4, 2013). Those without these learning tools will be left behind.

15 *See FCC National Broadband Plan* at 239, Recommendation 11.23 ("students without off-campus access to online educational services will be increasingly left behind in terms of skills, experience and confidence in their online capabilities"). *See also* Darrell M. West, "Mobile Learning: Transforming Education, Engaging Students, and Improving Outcomes," Center for Technology Innovation at Brookings (Sept. 17, 2013) *available at* http://www.brookings.edu/research/papers/2013/09/17-mobile-learning-education-engaging-students-west (detailing the critical importance of 24/7 connectivity to student success).

16 *See, e.g.,* Comments of Conterra Ultra Broadband, LLC at 6 (filed July 9, 2010 in response to the 2010 E-rate NPRM in CC Docket No. 02-6 & GN Docket No. 09-51) (noting that Navajo students face one hour plus bus rides to and from school, and far away from any possibility of traditional Internet access). Indeed, many students in suburban and rural areas of the country spend hours traveling on the school bus each week. Moreover, it is incongruous to allow E-rate support for the bus driver's cell phone as an "educational purpose", while not

educators will reap benefits, for wireless education technologies allow learning to expand beyond the four walls of the classroom and the hours of the school day and give teachers flexibility in how they use precious classroom minutes. While a large segment of the educators who filed comments on the NPRM expressly support E-rate funding for off-campus mobile connectivity, countless more educators who did not file comments would welcome such funding.

Qualcomm deeply believes that the FCC should support 24/7 online learning via the E-rate program by eliminating the rule that requires schools to allocate the cost of wireless Internet access service between E-rate eligible in-school use and non-eligible uses away from school premises. As the National Education Association explains, the on-campus/off-campus distinction makes little sense in today's highly mobile world where 24/7 connectivity is commonplace among those that can afford it:

> With the growing number of wireless devices used by students and educators to access the Internet, learning is no longer limited (and should not be limited) to a traditional, physical classroom. To attempt to determine – for purposes of E-Rate Program discount eligibility or ineligibility – further "qualifying" functions or roles of an educator or from where E-Rate Program resources should be accessed is impractical, burdensome and would only complicate the E-Rate Program application itself. More specifically, it … require[s] complicated cost-allocations that only enhance the complexity of the application process at a time when the Commission is seeking to simplify it.[17]

FCC funding of off-campus mobile broadband connectivity via the E-rate program would make available to needy schools and students the innovative educational approaches and tools detailed by many commenters.[18]

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supporting students' use of mobile devices to do homework or work on projects. *See* NPRM at ¶ 321, n.449.

17 Comments of National Education Association at 12.

18 *See, e.g.,* n.4 and n.10, *supra*.

II. The E-rate Program Should Allow Schools And Libraries To Use Mobile Broadband Connectivity For Broadband Internet Access

In many rural and underserved areas of the country, mobile broadband connectivity often is the most cost effective means of providing broadband access.[19] As Qualcomm and others explain in their opening comments, mobile broadband networks now deploying 4G LTE-Advanced technology, for example, can aggregate multiple carriers to greatly increase data rates that will be more than sufficient to provide hundreds of high-definition video streams to a rural school or library.[20] As a result, it is important that the Commission's E-rate program "maintain technological flexibility and not implement a preference for the deployment of one technology over another."[21] Indeed, the FCC should be technology neutral and enable freedom in network design by not adopting a regulatory preference for fiber deployments and other technologies (*e.g.*, Wi-Fi hotspots) over current and upcoming broadband delivery means.

Accordingly, Qualcomm agrees with the National Cable & Telecommunications Association's request that the FCC ensure that funding decisions are made on a technology neutral basis:

> Just as we do not encourage the Commission to establish one-size-fits-all connectivity mandates or targets, we also recommend that the Commission adopt a technology neutral approach rather than assuming that one technology (fiber) is the best choice in every scenario. … The Commission should ensure that the E-rate program is supporting the most cost-effective options in each case, not simply supporting technologies and services that generate the most buzz.[22]

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19 *See* NPRM at ¶ 67 (seeking comment on the most efficient technological architectures to serve schools and libraries).

20 *See* Qualcomm Comments at 8-9, n.30; . *See also* NPRM at ¶¶ 25-26 (seeking comment on whether 1 Gbps broadband connectivity is appropriate in remote areas of the country).

21 *See* Comments of PCIA – The Wireless Infrastructure Association and The HetNet Forum at 7. *See also* NPRM at ¶¶ 74-75

22 *See* Comments of National Cable & Telecommunications Association at 9.

Since 2010, when the FCC first proposed to fund mobile broadband connectivity off of school grounds via the E-rate program, wireless carriers have tremendously upgraded their networks, rapidly blanketing the nation with LTE connectivity.[23] Providing E-rate support for mobile connectivity both on and off of the campus of a school or library will further encourage mobile network providers to expand their coverage and capacity in these regions of the country. Indeed, broadband networks deployed to libraries and schools can facilitate the build-out of additional broadband facilities to surrounding homes, businesses, community centers and government offices.[24] Thus, schools and libraries should be given the flexibility to purchase the most advantageous broadband solution, and wireless broadband networks offer a viable and

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[23] *See* Comments of AT&T Inc. at 4; Comments of Sprint Corp. at 2-6; Comments of Verizon and Verizon Wireless at 9-10. *See also* AT&T 4G LTE Reaches 400 Markets, Nearly 240M POPs *available at* http://about.att.com/newsroom/att_4g_lte_reaches_400_markets_nearly_240m_pops.html (last accessed Sept. 16, 2013); Sprint Turns on More 4G LTE Markets, Expands LTE Coverage, 185 total LTE markets across the country; 34 more LTE markets launched in September *available at* http://newsroom.sprint.com/news-releases/sprint-turns-on-more-4g-lte-markets-expands-lte-coverage.htm (last accessed Sept. 16, 2013). T-Mobile's 4G LTE network now reaches 180 million people in 154 metro areas, and the company is "on target to have nationwide 4G LTE network coverage by the end of 2013, reaching 200 million people." *See* T-Mobile 4G LTE Network Fact Sheet *available at* http://newsroom.t-mobile.com/phoenix.zhtml?c=251624&p=irol-faq *(last accessed* Sept. 16, 2013). The Verizon Wireless 4G LTE network is available in more than 500 markets across the United States. *See* Verizon Wireless News Center *available at* http://news.verizonwireless.com/LTE/Markets.html (last accessed Sept. 16, 2016). Qualcomm disagrees with the FCC's broad claim that cellular data plans are "costly" and that Internet access can be provided more efficiently on campus via a local area network.[23] NPRM at ¶¶ 102, 146. Mobile broadband data connections are continuing to decrease in price and a number of mobile broadband providers offer reasonably-priced unlimited data plans.

[24] *See, e.g.*, Comments of Adtran, Inc. at 9; Comments of Sunesys at 6. *See also* Comments of American Library Association at 12 ("[W]e realize that in remote areas (*e.g.*, in many parts of Alaska) the cost for fiber installation is likely prohibitive. For such libraries, alternative forms of connectivity (*e.g.*, terrestrial wireless, satellite) must still be viewed as high-end broadband technologies and still be supported services.").

economic solution that is especially beneficial where it is used to provide access to both students and teachers on and off school grounds on a 24/7 basis.

III. The FCC Should Define A New "Eligible Services & Portable Educational Devices List" And Include Mobile Devices And Educational Applications

As noted above, to properly modernize the E-rate program to support 21st century digital learning, the Commission should provide E-rate funding for mobile broadband connectivity and portable learning devices and applications.[25] In this regard, Qualcomm reiterates its request that the FCC recast the Eligible Services List as the "Eligible Services & Portable Educational Devices List."[26]

Failure to authorize such support will limit the utility of and access to the benefits of mobile broadband services for educational purposes for disadvantaged students. As the National Broadband Plan recommended, E-rate support for wireless data services to mobile devices for educators "should be harmonized with support for student devices during any rulemaking."[27]

Students in low-income areas can use mobile devices to improve their learning, perform research, interface with classmates and teachers, access textbooks and libraries of information, and remain engaged when they are out of school due to illness or injury. There is no better use of E-rate funds than to support e-readers and next-generation digital textbooks for use on the devices. Such funding directly facilitates 24/7 learning.

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25 *See, e.g.*, Comments of Clearwire at 5 (filed July 9, 2010 in response to the 2010 E-rate NPRM in CC Docket No. 02-6 & GN Docket No. 09-51) ("equipment related to the provision of Wireless Internet service, such as personal computer cards, connection cards or similar devices, should be eligible for E-rate support").

26 *See* Comments of Qualcomm; *see also* Comments and Reply Comments of Qualcomm (filed July 9, 2010 and July 26, 2010, in response to the 2010 E-rate NPRM in CC Docket No. 02-6 & GN Docket No. 09-51).

27 *See FCC National Broadband Plan* at 244, n.122; *and see* Prepared Remarks of FCC Chairman Genachowski, National Rural Education Technology Summit (July 21, 2010) at 3.

In sum, the E-rate program — which focused traditionally on wiring schools and has in many cases successfully achieved that goal[28] — should be broadened to cover mobile broadband services, devices, and applications, since students will benefit greatly from portable learning tools that allow them to learn anywhere and anytime.

IV. The FCC Should Eliminate The Current Priority One/Two Classification System and Place All Eligible Items On A Consolidated Menu So Schools Can Easily Choose Those Items That Best Meet Their Needs

Many commenters agree with Commissioner Pai and Qualcomm that the FCC should place all eligible items on a consolidated menu, which Qualcomm calls "The Eligible Services & Portable Educational Devices List," and allow schools to pick those items that best meet their local needs and, in so doing, eliminate the existing priority one / priority two classification system.[29]

As PCIA rightly notes, the prioritization of specific services effectively dictates technology choices.[30] Xirrus Inc. explains that the "current emphasis of Priority-1 over Priority-2 has caused eligible agencies to continue to purchase technology and services that is at best, outdated, and in many cases, inefficient."[31] Eliminating the current classification system would

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28 *See* FCC Fact Sheet, FCC Launches Modernization Of E-Rate Program To Deliver Students And Teachers Access To High-Capacity Broadband Nationwide *available at* http://www.fcc.gov/document/fact-sheet-update-e-rate-broadband-schools-and-libraries ("By 2005, the E-rate program had successfully connected 94% of U.S. classrooms to the Internet, and by 2006, nearly all public libraries were connected to the Internet (98%).").

29 *See* NPRM at ¶¶ 248-51; Statement of Commissioner Ajit Pai at 1-2, Re: Modernizing the E-rate Program for Schools and Libraries, WC Docket No. 13-184. *See also* Qualcomm Comments at 13;

30 *See* Comments of PCIA – The Wireless Infrastructure Association and The HetNet Forum at 4. *See also* Comments of Amplify Education, Inc. at 9-11; Comments of the E-rate Reform Coalition at 10-11; Comments of Hewlett-Packard at 14-15; Comments of SmartEdgeNet, LLC at 5; Comments of United Systems, Inc.; Comments of VectorUSA at 1, 4;

31 *See* Comments of Xirrus Inc. at 3. *See also* Comments of Orange County Public Schools (filed under Lisa E. Connelly) at 2-3; Comments of Portola Valley School District at 1;

give school districts "greater flexibility in determining how to best meet … students' funding needs [to] ensure that funds are used wisely and that waste is minimized [and provides] greater funding certainty and [thus allows] districts to improve planning and budgeting."[32]

A framework that considers the whole network and allows a systems administrator to target funding to address network-specific bottlenecks would better accomplish the goals of the E-rate program.[33] Indeed, eliminating the arbitrary distinction between priority one and priority two categories "will promote the deployment of more efficient networks."[34]

Thus, the FCC should establish "The Eligible Services & Portable Educational Devices List" and simplify E-rate support application process by allowing applicants to have an equal chance of receiving support for any eligible items, such as full mobile broadband connectivity and smartphones, regardless of the regulatory classification.

Comments of the Richmond County School System, Augusta Georgia at 2; Comments of San Mateo County Office of Education at 1; Comments of the School District of Philadelphia at 10; Comments of Weslaco Independent School District at 10.

[32] *See* Comments of New Hope Technology Foundation at 2.

[33] *See id*; *see also* Joint Comments of the Minority Media And Telecommunications Council, the Rainbow Push Coalition and the League of United Latin American Citizens at 15-18 ("Merging priority one and priority two services into one technology menu will also give rise to additional cost savings, as it will take away any incentive for an institution to apply for non-critical priority one funding out of concern that its critical priority two funding requests will go unfulfilled."); Comments of Hispanic Information and Telecommunications Network, Inc..

[34] Comments of Comcast Corp. at 22. *See also* Comments of Telecommunications Industry Association at 7-8.

CONCLUSION

Qualcomm and scores of educators, technology providers and educational experts respectfully request that the FCC use the E-rate program to fund mobile broadband connectivity and portable learning devices so underprivileged students who lack these necessary learning tools can use them to complete assignments and interface with classmates and teachers at home after school and on weekends. The Commission also should provide E-rate applicants a single, simplified consolidated menu of items from which to choose covered services and devices, along the lines recommended by numerous school districts, technology companies, and educational advocacy organizations. These changes will enable American teachers and students and the FCC to transform the E-rate program into the "student-centered" program that it should be.

Respectfully submitted,

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